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# LEUCO-SARCOMA OF THE CHOROID; ENUCLEATION IN THE GLAUCOMATOUS STAGE, WITH HISTOLOGICAL EXAMINATION OF THE EYE-BALL.

By G. E. DESCHWEINITZ, M.D.,

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The ordinary pigmented sarcoma of the choroid is common, and even leuco-sarcoma is not rare, occurring, according to W. C. Rockliffe, once in eight times; but certain clinical and pathological features of interest are attached to the case which follows, justifying its record.

W. F. T., a man, aged 61, born in the United States, retired merchant, consulted me on the 9th of October, 1897, to see if any relief could be obtained for a detachment of the retina which he stated had existed in the right eye for some time.

*History.* — The patient had always enjoyed excellent health and had taken the best possible care of himself. In August of 1896, he contracted whooping-cough and dated his visual disabilities to a severe paroxysm of coughing during his illness. He also thought that his vision had been affected by being exposed at that time to a severe glare of the sunlight from the ocean.

*Examination.* — The patient was an exceedingly well preserved active man whose organs appeared to be sound. Urine examination made at a somewhat later date was negative.

V. of R. E. equaled seeing the outstretched fingers in the lower field if the head was tipped upward. The cornea and lens were clear, the vitreous slightly cloudy. There was a large detachment of the lower half of the retina extending completely to the periphery and a corresponding defect in the visual field. On movement of the eye there was distinct undulation of the detached retina, which was pushed forward into the vitreous. The optic disc could only be seen dimly and appeared to be oval and of a greenish color and contained a small cup. The tension was normal and the eye painless. The refraction of the unaffected

portion of the fundus was myopic; the patient's distance glass being 0.75 D.

V. of L. E. equaled, after correction of 1.75 D. of myopic astigmatism, 6/5. The disc was a vertical oval, of good color, containing a physiological cup. To the outer side there was a greenish broadening of the scleral ring. There were no abnormalities of the fundus or of the retinal circulation.

The patient had studied his own case with a good deal of intelligence, and wished to discuss all the arguments pro and con as to the etiology, treatment, and prognosis. Although the retinal detachment did not give the impression of one due to morbid growth, it was explained to him that this was a possibility, and as he had already tried other kinds of treatment it was further suggested that scleral puncture was advisable as a diagnostic measure, as well as a curative procedure, provided the subretinal contents were fluid. He was unwilling to make up his mind to have anything done, but promised to return the next day for further examination. Instead came a letter declining for the present to have treatment of any description, but promising to return later for further examination.

The patient was not again seen or heard from until the 18th of March, 1898, or about five months after his original visit, when a letter came stating that the vision of the right eye had gradually disappeared and that he had been totally blind in that eye since the beginning of the year. On two occasions he had had pain in the eye, accompanied by what he called "extravasations." Two weeks before writing he had taken cold and suffered somewhat from malaria. This was succeeded by intense neuralgia in the head and agonizing pain in the right eye, so great that he was obliged to allay the pain with full doses of morphia.

Suspecting that glaucoma had set in, the patient was advised to come immediately for examination. He reported on the 22d of March, 1898, with the typical appearances of secondary glaucoma: coarse bulbar injection, steamy cornea, shallow anterior chamber containing a small amount of blood, imperfect reflex from fundus, tension +1. The nature of the case, which was only too apparent, was explained to him and enucleation advised. To this he consented, and the eyeball was removed on the 31st of March and immediately placed in a 5 per cent. solution of formaldehyde. The patient recovered from the operation without incident, and when last seen, on the 25th of May, 1898, was perfectly comfortable.



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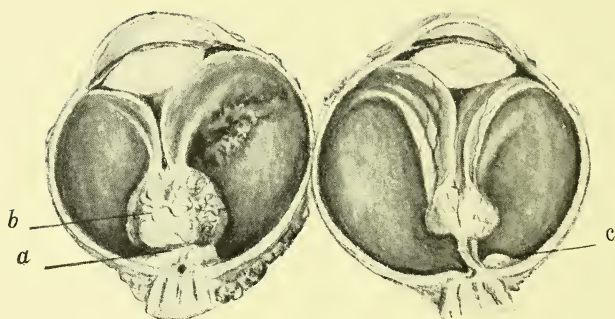


FIG. I.

Leuco-sarcoma of Choroid, showing at *a* constriction, which marks where choroidal capsule was ruptured and where retina became adherent, being pushed forward with growth of upper part of tumor (*b*), which assumes a mushroom shape. At *c* choroidal origin of growth is seen.



*Anatomical Description.* — After division of the eyeball the tumor was seen to be a somewhat pear-shaped growth, resting upon a flattened base, from which it was partly separated by a marked constriction. This constriction or neck, according to Panas and Rochon-Duvigneud<sup>1</sup>, represents the position where the tumor broke through the superficial layers of the choroidal capsule, and especially the lamina vitrea, and thus assumed the form of a hemispherical mushroom. (Fig. 1.) The color of the neoplasm was yellowish-white, and on its face a number of conspicuous vessels could be detected. The retina was completely detached except where it had become adherent to the growth when the latter first perforated its choroidal capsule. As the head of the tumor grew the retina was folded on itself and pushed in advance of it. There were no extra scleral nodules. The optic nerve was somewhat discolored upon one side.

*Microscopical Examination.* — All portions of the tumor, which springs solely from the choroid, are composed of small, slightly oval, perfectly typical sarcoma cells. There is no differentiated intercellular substance or pigment and no areas of degeneration. Large, thin-walled blood vessels are everywhere apparent. The rest of the eye is not noteworthy, except the angle of the anterior chamber which is closed by an adhesive inflammation between the iris-base and the periphery of the cornea. In addition, the angle is occluded by the remains of a blood-clot, which is a representative of the hyphaema existing before enucleation.

*Remarks.* — The chief points of interest have already been mentioned and may be briefly summarized:

(1) A myopic eye with the clinical history of ordinary spontaneous detachment of the retina.

(2) The earlier ophthalmoscopic appearances which closely simulated idiopathic detachment, and, in a degree greater than usual, obscured the diagnosis.

(3) The interesting mode of development of the growth, after rupture of the choroidal capsule and the adherence of the retina to this point.

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<sup>1</sup> Recherches Anatomique et Cliniques sur la Glaucome et les Néoplasms intraoculaires, Paris, 1898, p. 263.









